

CLAIMS 19-22 ARE REJECTED UNDER THE SECOND PARAGRAPH OF 35 U.S.C. § 112

In the second enumerated paragraph of the Office Action, the Examiner asserted that claim 19 fails to further limit claim 17, upon which claim 19 depends. This rejection is respectfully traversed.

Claims 17 and 19 are reproduced below:

17. A variable illumination angle inspection system for inspecting a substrate according to claim 14, wherein the deflection element is selectively inserted into the first optical path by an actuator.

19. A variable illumination angle inspection system according to claim 17, wherein the deflection element comprises a glass optical element including a first mirrored surface on a first side and a second mirror surface on a second side, wherein the scanning light beam enters a third side and is reflected from the first mirrored surface and second mirrored surface obliquely toward the substrate at the second angle.

Although the Examiner asserts that claim 19 does not further limit claim 17, Applicants do not understand why. The element recited in claim 17 of "the deflection element is selectively inserted into the first optical path" is already recited in claim 14; and thus, the only new element being introduced by claim 17 is that of "... by an actuator." In contrast, claim 19 recites the following new elements not already recited in claims 14 or 17:

the deflection element comprises a glass optical element including a first mirrored surface on a first side and a second mirror surface on a second side,
the scanning light beam enters a third side and is reflected from the first mirrored surface and second mirrored surface obliquely toward the substrate at the second angle.

As the elements listed above in connection to claim 19 are new to both claims 14 and 17, these elements limit the invention recited in claim 17, and Applicants, therefore, respectfully solicit withdrawal of the imposed rejection of claims 19-22 under the second paragraph of 35 U.S.C. §

112. Should the Examiner maintain this rejection, Applicants respectfully request that the Examiner further explain why claim 19 does not further limit claim 17.

CLAIMS 1, 14 AND 18 ARE SEPARATELY REJECTED UNDER 35 U.S.C. § 102 AS BEING ANTICIPATED BY PIRLET, U.S. PATENT NO. 4,171,917, AND SICK ET AL., U.S. PATENT NO. 4,632,546 (HEREINAFTER SICK)

In the fourth enumerated paragraph of the Office Action, the Examiner asserted that Pirlet and Sick separately disclose an inspection system corresponding to that claimed. This rejection is respectfully traversed.

The factual determination of lack of novelty under 35 U.S.C. § 102 requires the identical disclosure of each element of a claimed invention in a single reference. As part of this analysis, the Examiner must (a) identify the elements of the claims, (b) determine the meaning of the elements in light of the specification and prosecution history, and (c) identify corresponding elements disclosed in the allegedly anticipating reference. That burden has not been discharged.

In the statement of the rejection as to Pirlet and Sick (and also as to Dlugos, Brierley, and Peng, as will be discussed in more detail below), the Examiner has only asserted that Pirlet and Sick teach the following elements: i) a light source; ii) a scanner; and iii) a reflection element. Applicants use the term "only" in the preceding sentence because independent claims 1 and 14 recite considerably more than these two elements. For example, claims 1 and 14 both recite that the inspection system provides a scanning beam that approaches a substrate at a first angle and a second angle. In addition, claims 1 and 14 both recite that the deflection element is selectively

insertable into an optical path, and when inserted into the optical path, the deflection element deflects the scanning beam to approach the substrate at the second angle.

The Examiner's statement of the rejection, however, fails to identify where either Pirlet or Sick teaches or suggests a scanning beam that approaches a substrate at a first angle and a second angle. Furthermore, it is not apparent that the concave reflector 14 of Pirlet or the concave mirror 22 of Sick are selectively insertable into an optical path. Instead, these elements appear to be always within the optical path disclosed by Pirlet or Sick. The above argued differences between the inspection system defined in independent claim 1 and the systems of Pirlet and Sick undermine the factual determination that Pirlet and/or Sick identically describe the claimed invention within the meaning of 35 U.S.C. § 102. Applicants, therefore, respectfully submit that the imposed rejections of claims 1, 14 and 18 under 35 U.S.C. § 102 for lack of novelty, as separately evidenced by Pirlet and Sick, are not factually viable and, hence, solicit withdrawal thereof.

**CLAIMS 1, 14-15 AND 18 ARE REJECTED UNDER 35 U.S.C. § 102 AS BEING
ANTICIPATED BY DLUGOS, U.S. PATENT NO. 5,777,746**

In the fifth enumerated paragraph of the Office Action, the Examiner asserted that Dlugos discloses an inspection system corresponding to that claimed. This rejection is respectfully traversed.

As with Sick and Pirlet, Dlugos fails to identically describe the following limitations recited in claims 1 and 14:

a scanning beam that approaches a substrate at a first angle and a second angle;
the deflection element is selectively insertable into an optical path; and

when inserted into the optical path, the deflection element deflects the scanning beam to approach the substrate at the second angle.

Claim 15 also recites that the first angle is oblique to the substrate and the second angle is substantially perpendicular to the substrate. However, Fig. 1 of Dlugos discloses that the light beam only approaches a wall 18 at one angle, in contrast to that recited in claim 15. Thus, claim 15 further distinguishes the claimed invention over Dlugos. Applicants, therefore, respectfully submit that the imposed rejection of claims 1, 14-15 and 18 under 35 U.S.C. § 102 for lack of novelty, as evidenced by Dlugos, is not factually viable and, hence, solicit withdrawal thereof.

**CLAIMS 1-4, 14, 16 AND 18 ARE REJECTED UNDER 35 U.S.C. § 102 AS BEING
ANTICIPATED BY BRIERLEY, U.S. PATENT NO. 5,106,196**

In the sixth enumerated paragraph of the Office Action, the Examiner asserted that Brierley discloses an inspection system corresponding to that claimed. This rejection is respectfully traversed.

As with Sick, Pirlet and Dlugos, Brierley fails to identically describe the limitation recited in claims 1 and 14 that the deflection element is selectively insertable into an optical path. In addition, although the Examiner refers to Fig. 2 of Brierley to teach that "the first angle is normal to the substrate," none of the disclosed paths in Fig. 2 are at an angle that is normal (i.e., perpendicular) to the substrate. Applicants, therefore, respectfully submit that the imposed rejection of claims 1-4, 14, and 16 and 18 under 35 U.S.C. § 102 for lack of novelty, as evidenced by Brierley, is not factually viable and, hence, solicit withdrawal thereof.

**CLAIMS 1, 14-15 AND 18 ARE REJECTED UNDER 35 U.S.C. § 102 AS BEING
ANTICIPATED BY PENG, U.S. PATENT NO. 5,408,352**

In the seventh enumerated paragraph of the Office Action, the Examiner asserted that Peng discloses an inspection system corresponding to that claimed. This rejection is respectfully traversed.

As with Sick, Pirlet and Dlugos, Peng fails to identically describe the following limitations recited in claims 1 and 14:

a scanning beam that approaches a substrate at a first angle and a second angle;
the deflection element is selectively insertable into an optical path; and
when inserted into the optical path, the deflection element deflects the scanning beam to approach the substrate at the second angle.

Claim 15 also recites that the first angle is oblique to the substrate and the second angle is substantially perpendicular to the substrate. However, Fig. 5 of Peng discloses that the light beam only approaches bar code C at one angle, in contrast to that recited in claim 15. Therefore, claim 15 further distinguishes the claimed invention over Dlugos. Applicants, therefore, respectfully submit that the imposed rejection of claims 1, 14-15 and 18 under 35 U.S.C. § 102 for lack of novelty, as evidenced by Peng, is not factually viable and, hence, solicit withdrawal thereof.

**CLAIMS 8-11 AND 19-22 ARE REJECTED UNDER 35 U.S.C. § 103 FOR OBVIOUSNESS
BASED UPON BRIERLEY IN VIEW OF NERI ET AL., EU 0582868 (HEREINAFTER NERI)**

In the ninth enumerated paragraph of the Office Action, the Examiner concluded that one having ordinary skill in the art would have been motivated to modify the inspection system of Brierley in view of Neri to arrive at the claimed invention. This rejection is respectfully traversed.

Claims 8-11 and 19-22 respectively depend from independent claims 1 and 14, and Applicants incorporate herein the arguments previously advanced in traversing the imposed rejection of claims 1 and 14 under 35 U.S.C. § 102 for lack of novelty as evidenced by Brierley. Specifically, Brierley neither discloses nor suggests a deflection element that is selectively insertable into an optical path. The secondary references to Neri also does not disclose this concept. Accordingly, the proposed combination of references would not yield the claimed invention.

Applicants also respectfully submit that the Examiner's asserted motivation to combine Brierley and Neri is legally insufficient to have motivated one having ordinary skill in the art to arrive at the claimed invention based the teachings of Brierley and Neri. On page five of the statement of the rejection, the Examiner stated the following:

Those of ordinary skill in the art at the time the invention was made to [sic] replace the reflection mirrors 40 and 22 of Brierley by a glass wedge of Neri because they are [sic] function in the same manner. A substitution for each other is generally recognized as being within the level of ordinary skill in the art.

With regard to the obviousness of equivalents, the Examiner is referred to M.P.E.P. § 2144.06 and the paragraph entitled "SUBSTITUTING EQUIVALENTS KNOWN FOR THE SAME

PURPOSE."¹ As discussed in In re Ruff, equivalency cannot be based on the mere fact that the components at issue are functional equivalents. Furthermore, in In re Scott, a decision of the Board was reversed on the basis that components that are functionally equivalent are not necessarily obvious in view of one another. Thus, even if one having ordinary skill in the art would consider the reflective elements disclosed by Brierley and Neri to be functional equivalents, this functional equivalency alone is insufficient to provide a motivation or suggestion to modify Brierley in view of the teachings of Neri. As case law and the M.P.E.P disapproves of the Examiner's asserted motivation to combine and the Examiner has not asserted any other motivation, Applicants respectfully submit that the Examiner has failed to establish a prima facie case of obviousness under 35 U.S.C. § 103. Applicants also note that the Examiner has failed to establish that Neri teaches all of the limitations recited in claims 8-11 and 19-22. Applicants, therefore, respectfully submit that the imposed rejection of claims 8-11 and 19-22 under 35 U.S.C. § 103 for obviousness based upon Brierley in view of Neri is not viable and, hence, solicit withdrawal thereof.

¹ In order to rely on equivalence as a rationale supporting an obviousness rejection, the equivalency must be recognized in the prior art, and cannot be based on applicant's disclosure or the mere fact that the components at issue are functional or mechanical equivalents. In re Ruff, 256 F.2d 590, 118 USPQ 340 (CCPA 1958) (The mere fact that components are claimed as members of a Markush group cannot be relied upon to establish the equivalency of these components. However, an applicant's expressed recognition of an art-recognized or obvious equivalent may be used to refute an argument that such equivalency does not exist.); In re Scott, 323 F.2d 1016, 139 USPQ 297 (CCPA 1963) (Claims were drawn to a hollow fiberglass shaft for archery and a process for the production thereof where the shaft differed from the prior art in the use of a paper tube as the core of the shaft as compared with the light wood or hardened foamed resin core of the prior art. The Board found the claimed invention would have been obvious, reasoning that the prior art foam core is the functional and mechanical equivalent of the claimed paper core. The court reversed, holding that components which are functionally or mechanically equivalent are not necessarily obvious in view of one another, and in this case, the use of a light wood or hardened foam resin core does not fairly suggest the use of a paper core.); Smith v. Hayashi, 209 USPQ 754 (Bd. of Pat. Inter. 1980) (The mere fact that phthalocyanine and selenium function as equivalent photoconductors in the claimed environment was not sufficient to establish that one would have been obvious over the other. However, there was evidence that both phthalocyanine and selenium were known photoconductors in the art of electrophotography. "This, in our view, presents strong evidence of obviousness in substituting one for the other in an electrophotographic environment as a photoconductor." 209 USPQ at 759.).

Applicants have made every effort to present claims which distinguish over the prior art, and it is believed that all claims are in condition for allowance. However, Applicants invite the Examiner to call the undersigned if it is believed that a telephonic interview would expedite the prosecution of the application to an allowance. Accordingly, and in view of the foregoing remarks, Applicants hereby respectfully request reconsideration and prompt allowance of the pending claims.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417, and please credit any excess fees to such deposit account.

Respectfully submitted,

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